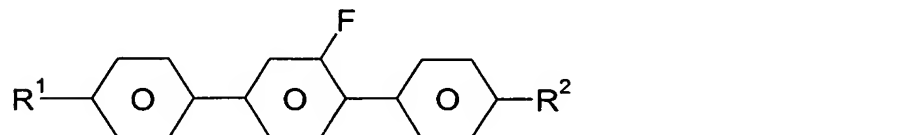
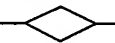


# Patent Claims

1. Liquid-crystalline medium based on a mixture of polar compounds of positive or negative dielectric anisotropy, characterised in that it comprises one or more compounds of the general formula I



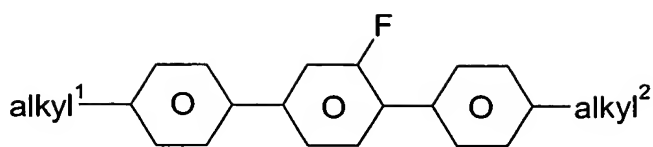
10 in which

$R^1$  and  $R^2$  are each, independently of one another, identically or differently, H, an alkyl radical having from 1 to 12 carbon atoms which is unsubstituted, monosubstituted by CN or  $CF_3$  or at least monosubstituted by halogen, where, in addition, one or more  $CH_2$  groups in these radicals may each, independently of one another, be replaced by -O-, -S-, , -CH=CH-, -C≡C-, -CO-, -CO-O-, -O-CO- or -O-CO-O- in such a way that O atoms are not linked directly to one another.

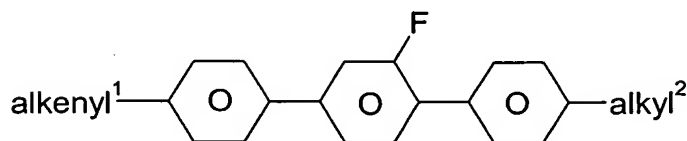
2. Medium according to Claim 1, characterised in that, in the compound of the formula I,  $R^1$  and/or  $R^2$  are, independently of one another, identically or differently, H, a straight-chain alkyl radical having from 1 to 9 carbon atoms or a straight-chain alkenyl radical having from 2 to 9 carbon atoms.

3. Medium according to Claim 1 or 2, characterised in that it comprises one or more compounds selected from the group consisting of the compounds of the sub-formulae Ia to Id:

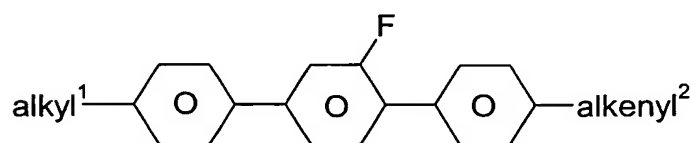
- 115 -



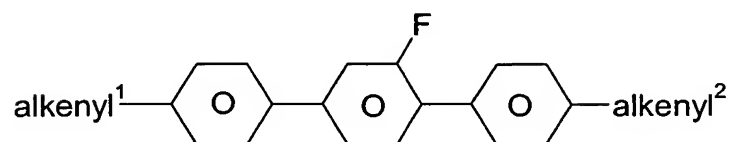
Ia



Ib



Ic

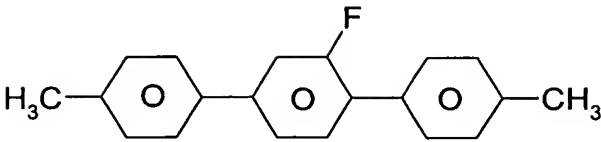
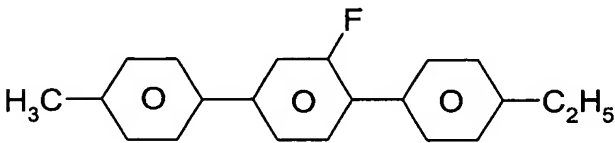
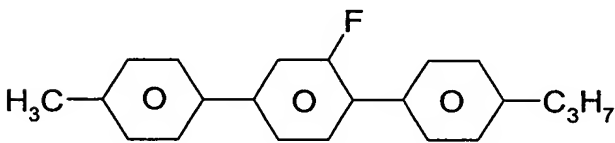
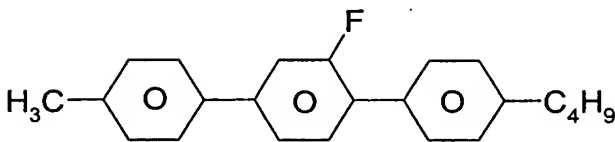
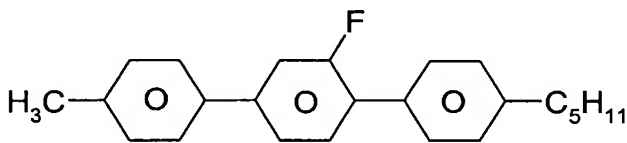
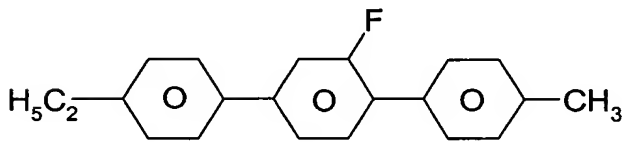
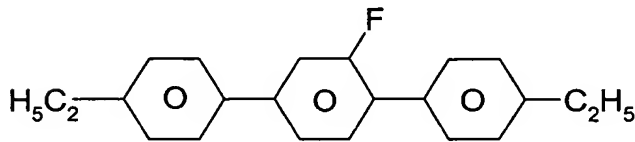
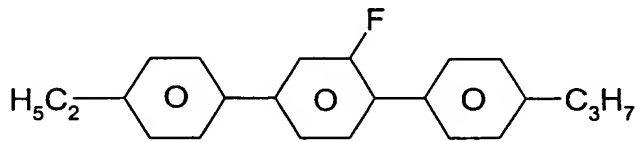


Id

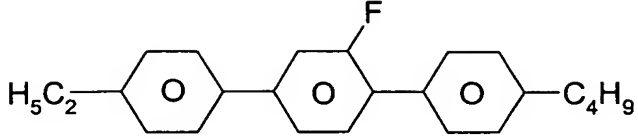
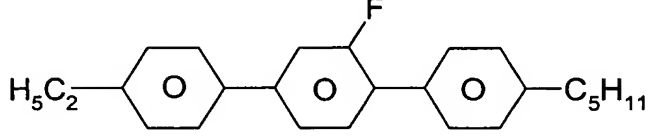
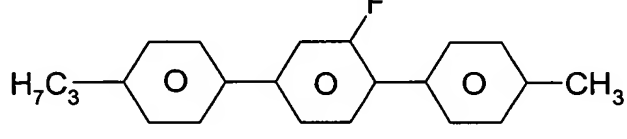
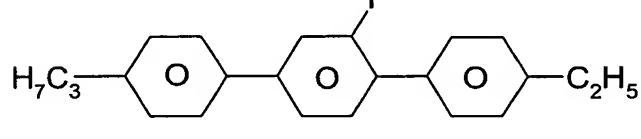
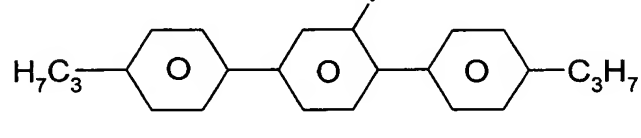
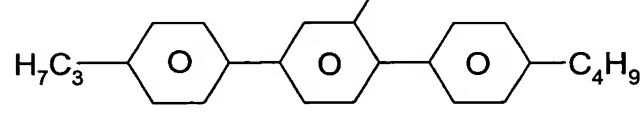
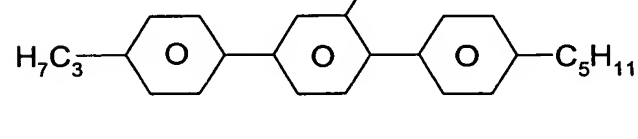
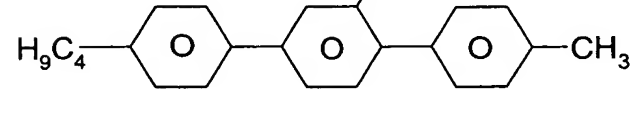
where the term "alkyl<sup>1</sup>" and "alkyl<sup>2</sup>" in each case, independently of one another, identically or differently, denotes a hydrogen atom or an alkyl radical having from 1 to 9 carbon atoms, preferably a straight-chain alkyl radical having from 1 to 5 carbon atoms, and the term "alkenyl<sup>1</sup>" and "alkenyl<sup>2</sup>" in each case, independently of one another, identically or differently, denotes an alkenyl radical having from 2 to 9 carbon atoms, preferably a straight-chain alkenyl radical having from 2 to 5 carbon atoms.

4. Medium according to at least one of the preceding claims, characterised in that it comprises one or more compounds selected from the group consisting of the compounds of the sub-formulae I1 to I25:

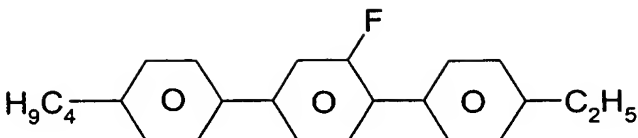
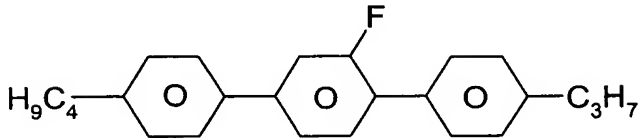
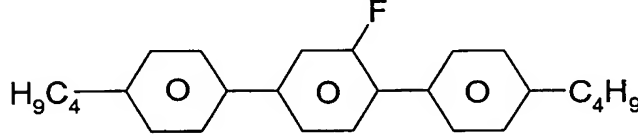
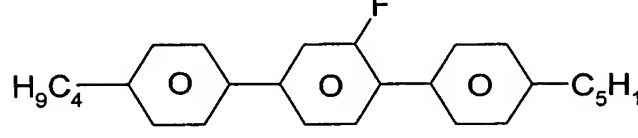
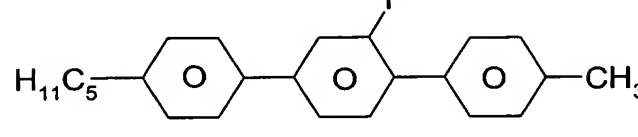
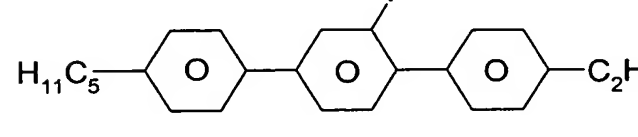
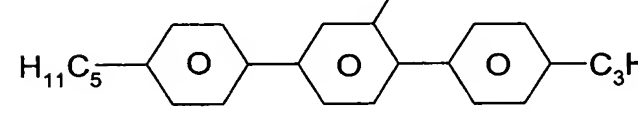
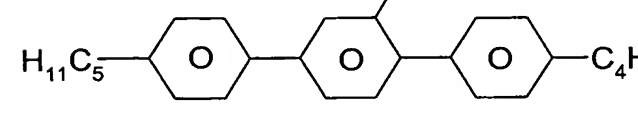
- 116 -

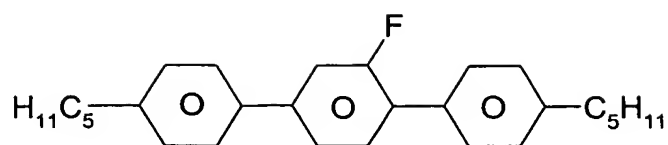
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5		12
10		13
15		14
20		15
25		16
30		17
35		18

- 117 -

		I9
5		I10
10		I11
15		I12
20		I13
25		I14
30		I15
35		I16

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		I17
5		I18
10		I19
15		I20
20		I21
25		I22
30		I23
35		I24



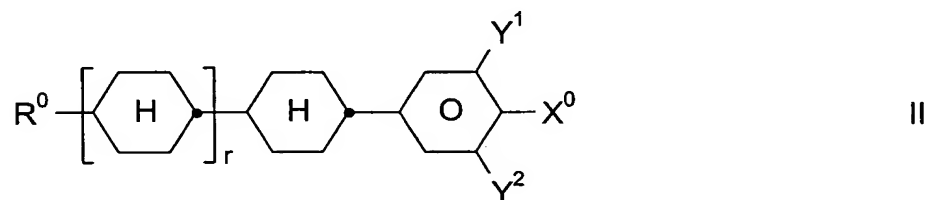
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5. Medium according to at least one of the preceding claims, characterised in that the proportion of compounds of the formula I in the mixture as a whole is from 1 to 60% by weight.

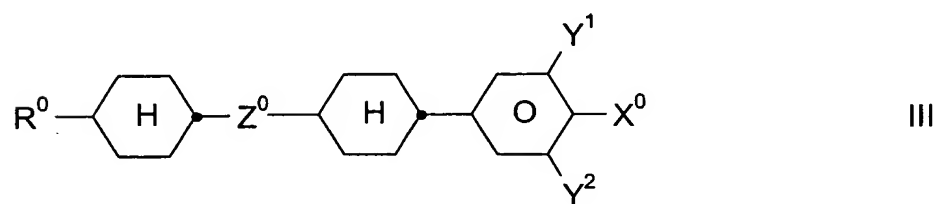
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6. Medium according to at least one of the preceding claims, characterised in that it additionally comprises one or more compounds selected from the group consisting of compounds of the general formulae II to X:

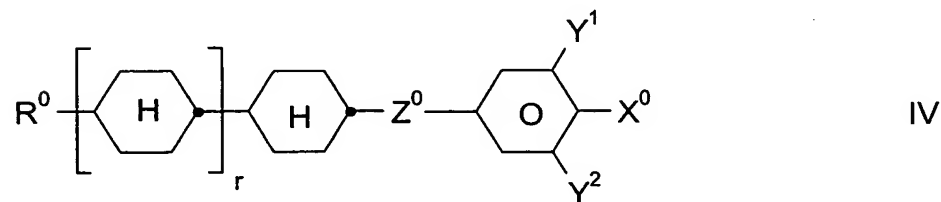
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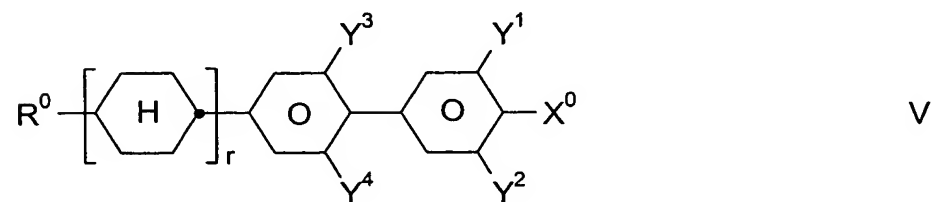
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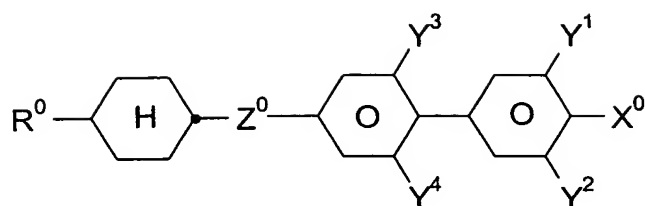


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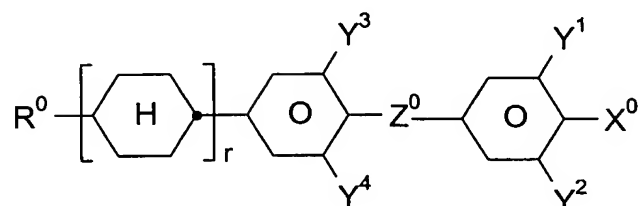


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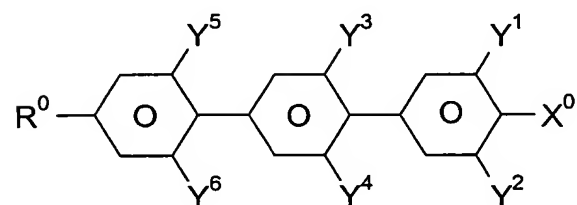
- 120 -



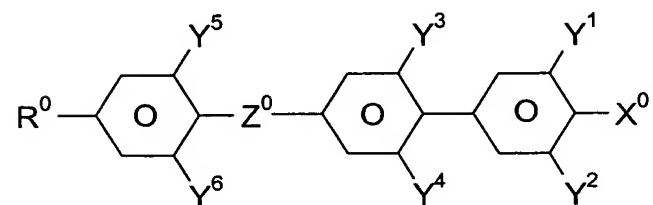
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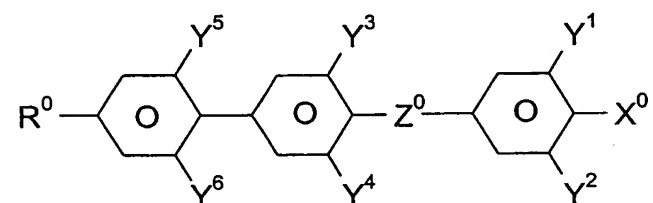
VII



VIII



IX



X

in which the individual radicals have the following meanings:

$R^0$ : n-alkyl, oxaalkyl, fluoroalkyl or alkenyl, each having up to 9 carbon atoms;

$X^0$ : F, Cl, halogenated alkyl or halogenated alkoxy having from 1 to 6 carbon atoms, or halogenated alkenyl having from 2 to 6 carbon atoms;

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$Z^0$ :  $-\text{CF}_2\text{O}-$ ,  $-\text{OCF}_2-$ ,  $-\text{CH}_2\text{O}-$ ,  $-\text{OCH}_2-$ ,  $-\text{CO}-\text{O}-$ ,  $-\text{O}-\text{CO}-$ ,  $-\text{CH}=\text{CH}-$ ,  
 $-\text{C}_2\text{H}_4-$ ,  $-\text{C}_2\text{F}_4-$ ,  $-\text{CH}_2\text{CF}_2-$ ,  $-\text{CF}_2\text{CH}_2-$  or  $-\text{C}_4\text{H}_8-$ ;

$Y^1, Y^2, Y^3, Y^4, Y^5$  and  $Y^6$ :

each, independently of one another, H or F;

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$r$ : 0 or 1.

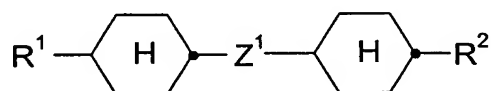
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7. Medium according to Claim 6, characterised in that the proportion of compounds of the formulae II to X in the mixture as a whole is from 20 to 70% by weight.

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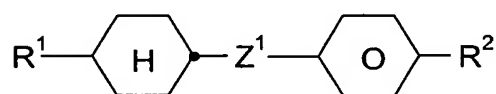
8. Medium according to at least one of the preceding claims, characterised in that it comprises one or more compounds selected from the group consisting of compounds of the general formulae XI to XVII:

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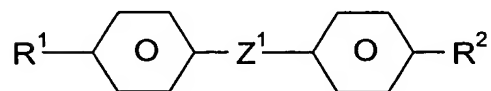
XI

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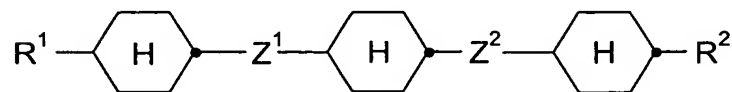


XII

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XIII

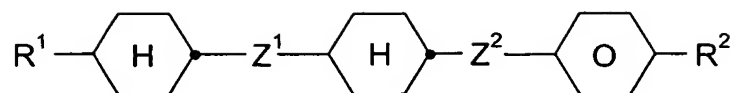


XIV

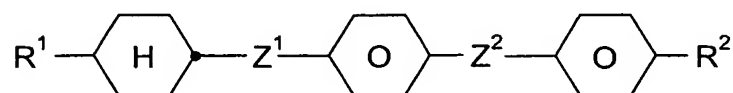
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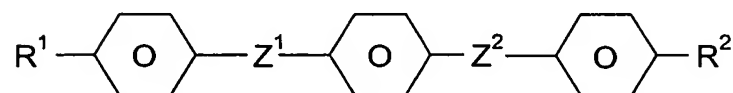
- 122 -



XV



XVI



XVII

in which the individual radicals have the following meanings:

$R^1$  and  $R^2$ : independently of one another, identically or differently, n-alkyl, n-alkoxy or alkenyl, each having up to 9 carbon atoms; and

$Z^1$  and  $Z^2$ : independently of one another, identically or differently, a single bond,  $-CF_2O-$ ,  $-OCF_2-$ ,  $-CH_2O-$ ,  $-OCH_2-$ ,  $-CO-O-$ ,  $-O-CO-$ ,  $-CH=CH-$ ,  $-C_2H_4-$ ,  $-C_2F_4-$ ,  $-CH_2CF_2-$ ,  $-CF_2CH_2-$  or  $-C_4H_8-$ .

9. Medium according to Claim 8, characterised in that the proportion of compounds of the formulae XI to XVII in the mixture as a whole is from 5 to 70% by weight.

10. Use of a liquid-crystalline medium according to at least one of the preceding claims for electro-optical purposes.

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11. Electro-optical display devices containing a liquid-crystalline medium according to at least one of Claims 1 to 9.

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